UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,054	04/05/2000	Gopal Parupudi	MS1-507US	7234

22801   7590   09/10/2003

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EXAMINER
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ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 09/10/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 June 2003</u> .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-67* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *7&9* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Respons to Amendm nt

1.   The amendment filed on June 24, 2003 has been fully

considered but are moot in view of the new ground(s) of

rejection.

   ■ Claims 1,13, 37,45, and 58 have been amended.

   ■ Claims 1-67 are presented for examination.

Claim Rejections - 35 USC § 103

     The following is a quotation of 35 U.S.C. 103(a) which forms

the basis for all obviousness rejections set forth in this Office

action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

2.   Claims 1-10, 12-20, 22-36, 45-62, and 64-66 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Hollenberg US

(6091956) in view of Wang US (5539922).

As per claims 1 and 13, Hollenberg teaches a computing device

comprising:

     one or more processors [Fig.2a, Col. 5, lines 13-28; Col. 6,

lines 15-30];

memory operably associated with the one or more processors [Col. 5, lines 13-28; Col. 6, lines 15-30]; and

a context service module (Control programs) loadable in the memory and executable by the one or more processors to receive context information from one or more context providers (Fig. 1, 32a-c,14a-c, GPS 34a, network 30a) and process the information to determine a current device context [col. 5, lines 13-28; col. 13, lines 9-63; col. 23, line 64 to col. 24, line 67 and col. 25, lines 1-31].

Although Hollenberg shows substantial features of the claimed invention, he does not explicitly show at least one node associated with context information and traversing at least a portion of a hierarchical tree structure of which said at least node comprises a part.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Hollenberg, as evidenced by Wang USPN. (5539922).

In analogous art, Wang disclose a communication system with hierarchical system of nodes organized into multiple node trees (fig. 22 and fig. 12), the hierarchical system is capable of tracking the location of the transceiver as it moves between nodes and the hierarchical tree structure [abstract. See also col. 12, lines 18-41].

Giving the teaching of Wang, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Hollenberg by employing the system of

Wang in order to provide a method of linking root nodes of

various trees and for the advantage of determining a current

location of a device.

As per claims 2,14 and 24, Hollenberg teaches computing device

embodied as a mobile computing device [Fig. 2, 2a].

As per claims 3, 15, and 25, Hollenberg teaches computing device

embodied as a desktop computing device [Col. 6, lines 15-30].

As per claim 4, Hollenberg teaches computing device wherein the

device comprises cache memory that maintains a current device

context [Col. 8, lines 25-60].

As per claims 5 and 16, Hollenberg teaches computing device

wherein the context service module is configured to automatically

receive the context information from the context providers [Col.

10, lines 12-24].

As per claims 6 and 17, Hollenberg teaches the computing device

of claim 1, wherein the context service module is configured to

automatically receive the context information from the context

providers and, as the context of the computing device changes,

process the information to determine a new current device context

[Col. 8, lines 34-67; Col. 13, lines 9-63; Col. 18, lines 57-67

to Col. 19, lines 1-14].

As per claims 7 and 18, Hollenberg teaches the computing device
wherein the context service module is configured to request
context information from one or more of the context providers
[Col. 11, lines 43-67].

As per claims 8 and 19, Hollenberg teaches the computing device
of claim 1, wherein the context service module is configured to
provide information concerning a current device context to one or
more applications [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claims 9, Hollenberg teaches the computing device wherein
the context service module is configured to receive a request
from the one or more applications that request the current device
context information [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claims 10 and 20, Hollenberg teaches the computing device
of claim 1 further comprising a context provider interface
associated with the context service module, the context provider
interface comprising a common interface that is capable in
receiving context information from multiple different context
providers [Col. 18, lines 57-67 to Col. 19, lines 1-60].

As per claims 12 and 22, Hollenberg teaches a computing device
further comprising one or more events that are configured for use
by one or more applications so that the applications can register
to receive information concerning a current device context

responsive to the occurrence of one or more events [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claim 23 and 32, the claims have similar limitations as explained in claim 1 and 13 above. Wang further teaches at least one hierarchical tree structure resident on the media and comprising multiple nodes each of which represents a geographical division of the Earth [fig. 12, and col. 5, lines 1-25; col. 12, lines 18-41].

As per claims 24 and 33, Hollenberg teaches a computing device embodied as a mobile computing device [Fig. 2, 2a].

As per claims 25 and 34, Hollenberg teaches a computing device embodied as a desktop computing device [Col. 6, lines 15-30].

As per claim 26, Hollenberg teaches a computing device wherein the location service module is configured to determine the current device location [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54].
As per claim 26, Wang teaches traversing multiple nodes of the hierarchical tree [fig. 12, and col. 5, lines 1-25; col. 12, lines 18-41].

As per claims 27 and 28, Wang teaches the computing device further comprising another hierarchical tree structure resident on the media and comprising multiple nodes each of which

represents a physical or logical entity, the location service

module being configured to determine the current device location

by traversing multiple nodes of the hierarchical trees; a link

between nodes on the different trees, the location service module

being configured to determine the current device location by

traversing multiple nodes of the hierarchical trees [see fig. 12

and fig.22; col. 5, lines 1-25; col. 10, 51-56; and col. 12,

lines 18-41].

As per claims 29, Hollenberg teaches the computing device of

claim 23, wherein the location service module is configured to

provide information concerning a current device location to one

or more applications for rendering location-specific services

[Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claim 30, Hollenberg teaches a computing device wherein

the location service module is configured to receive calls from

the one or more applications that request the information

concerning the current device location [Col. 18, lines 57-67 to

Col. 19, lines 1-60].

As per claim 31, Hollenberg teaches a computing device wherein

the location service module is configured to register one or more

applications for notification of information concerning a current

device location upon the occurrence of a definable event [Col. 4,

lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claim 35, Hollenberg teaches a computing device wherein the hierarchical tree structure comprises an organization specific tree structure that has context only within a particular organization [Col. 13, lines 9-63].

As per claims 36, Hollenberg teaches a computing device further comprising one or more services associated with one or more nodes of the hierarchical tree, the device comprising an application that is executing on the one or more processors to traverse the hierarchical tree to located the one or more service [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54. see the rejection on claims 1 and 13 concerning the limitations reading hierarchical tree and node traversing].

As per claim 45, Hollenberg teaches a computer-implemented method of determining a computing device context comprising:

receiving, with a computing device, information that pertains to a current context of the device [Col. 12, lines 13-40; Col. 13 lines 22-63];

processing the information on and with the device to ascertain the current context of the computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per the limitation determining, from the context information, at least one node associated with the context information and traversing at least a portion of a hierarchical tree structure of which said at least node comprises a part [see the combination and the rejection made on claims 1 and 13 above].

As per claim 46, Hollenberg teaches the computer-implemented
method of claim 45, wherein said receiving comprises receiving
the information with a mobile computing device [Col. 12, lines
13-40; Col. 13 lines 22-63].

As per claim 47, Hollenberg teaches the computer-implemented
method of claim 45, wherein said receiving comprises receiving
the information with a hand-held computing device [Col. 12, lines
13-40; Col. 13 lines 22-63].

As per claim 48, Hollenberg teaches the computer-implemented
method of claim 45, wherein said receiving comprises receiving
the information with a desktop computing device [Col. 6, lines
15-30; Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 49, Hollenberg teaches the computer-implemented
method of claim 45, wherein the current context is the device
location [Col. 8, lines 34-60].

As per claim 50, Hollenberg teaches the computer-implemented
method of claim 49, wherein the receiving of the information
comprise receiving information from multiple different location
providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67].

As per claim 51, Hollenberg teaches computer-implemented method of claim 50, wherein the information that is received from the multiple different location providers is received in different forms [Col. 5, lines 13-46; Col. 8, lines 34-67 and Col. 9, lines 1-67].

As per claim 52, Hollenberg teaches the computer-implemented method of claim 50, wherein the receiving of the information comprises receiving the information through a common interface [Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claim 53, Hollenberg teaches the computer-implemented method of claim 45, wherein the receiving of the information comprise receiving information from multiple different context providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67].

As per claim 54, Hollenberg teaches the computer-implemented method of claim 53, wherein the information that is received from the multiple different location providers is received in different forms [Col. 5, lines 13-46; Col. 8, lines 34-67 and [Col. 9, lines 1-67].

As per claim 55, Hollenberg teaches computer-implemented method of claim 53, wherein the receiving of the information comprises receiving the information through a common interface [Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claim 56, Hollenberg teaches the computer-implemented method of claim 45 further comprising receiving a request from an application for information that pertains to the current context of the mobile computing device and returning at least some information to the application [Col. 11, lines 43-67].

As per claim 57, Hollenberg teaches the computer-implemented method of claim 45 further comprising receiving at least one event registration from one or more applications that-pertains to an event for which the application is to receive information pertaining to the current context of the computing device, and returning information pertaining to the current context of the computing device to the one or more applications responsive to the occurrence of an client [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claims 58-60, the claims include similar limitations as addressed above on claims 1 and 13 and claims 45-57. Therefore, they are rejected for the same reason.
As per claim 61, Wang teaches the computer-implemented method of claim 60, wherein one tree structure comprises a unique representation of a physical or logical entity [Col. 1, lines 50-67].

As per claim 62, Hollenberg teaches the computer-implemented method of claim 59 further comprising receiving a request from

one or more applications for information that pertains to a

current device location and providing the one or more

applications with the information that pertains to the current

device location [Col. 8, lines 34-67; Col. 13, lines 9-63.

As per claim 64, Hollenberg teaches the computer-implemented

method of claim 62, wherein the receiving of the request

comprises receiving an event registration [Col. 8, lines 34-67;

Col. 13, lines 9-63.

As per claim 65, Hollenberg teaches the computer-implemented

method of claim 62 further comprising applying a security policy

to the information that pertains to the current device location

before providing the information to the one or more applications

[Col. 23, lines 12-36].

As per claim 66, Hollenberg teaches the computer-implemented

method of claim 59 further comprising before processing the

information to ascertain a node, resolving any conflicts that

might exist between information that is received from different

location providers [Col. 13, lines 9-21 Col. 23, lines 37-67 and

Col. 24, lines 1-28; Col. 27, lines 33-67 to Col. 28, lines 1-

55].

3.   Claims 11, 21,37-44, 63 and 67 are rejected under 35 U.S.C.

103(a) as being unpatentable over Hollenberg US (6091956) in view

of Wang US (5539922) and further in view of Reed et al US (6088717).

As per claims 11 and 21, Reed et al teach the invention further comprising one or more application program interfaces (APIs) operably associated with the context service module, the one or more APIs being callable by one or more applications to acquire information concerning the current device context [See the rejection below on Claim 37. Col.95 lines 66-67 and Col.96, lines 1-60].

As per claim 37, Hollenberg and Wang teach all the limitations of the invention as explained in claims 1, 13, 58 and 59 above. However, Hollenberg and Wang are silent about using one or more application program interfaces (API).

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Hollenberg and Wang, as evidenced by Reed et al USPN. (6088717).

In an analogous art, Reed et al, teach using application program interfaces (API) to transfer and access data, metadata, and methods of communications operations between provider computer and consumer computer through a communication network. Transfer of metadata and methods permits intelligent processing of information [abstract and Col.141, lines 60-67 and Col.142, lines 1-29].

Giving the teaching of Reed et al, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Hollenberg and Wang by providing Reed et al's API communication system for the advantage of accessing data, metadata, and methods of communications objects stored in databases and for a further of advantage of facilitating request services from another application within a desktop, server or network operating environment [Col.141, lines 60-67 and Col.142, lines 1-18].

As per claim 38, Hollenberg teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a mobile computing device [Fig. 2, 2a].

As per claim 39, Hollenberg teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a desktop computing device [Col. 6, lines 15-30].

As per claim 40, Hollenberg teaches the location-aware computing system of claim 37, wherein the location provider interface is configured to receive location information from multiple different location providers [Col. 8, lines 34-60; Col. 12, lines 13-40].

As per claim 41, Hollenberg teaches the location-aware computing system of claim 37, wherein the location provider interface is

configured to receive location information from multiple

different location providers, the location service module being

configured to poll one or more of the location providers so that

the polled location provider can provide location information to

the location provider interface [Col. 11, lines 43-67].

As per claim 42, Hollenberg teaches the location-aware computing

system of claim 37 further comprising:

one or more computer-readable media [Col. 5, lines 13-28;

Col. 6, lines 15-30]; and

Wang teaches a hierarchical tree structure resident on the media and

comprising multiple nodes each of which represent geographical

divisional of the Earth, the location service module being

configured to process the information to ascertain a current

device location that comprises one rode on the hierarchical tree

structure [abstract. See also col. 12, lines 18-41].

As per claims 43 and 44, include similar limitations as discussed

in claim 37 and 42 above. Therefore, they are rejected for the

same reason.

As per claims 63, Reed et al teach the computer-implemented

method of claim 62, wherein the receiving of the request

comprises receiving a call to an application program interface

(API) [Col.141, lines 36-67 and Col.142, lines 1-18].

As per claim 67, see the rejection made on claim 37 above.

Therefore, the claim is rejected for the same reason as stated

above in claim 37 above.

Conclusion

4.   Applicant's submission of an information disclosure

statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR

1.17(p) on June 26, 2003 prompted the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS**

MADE FINAL. See MPEP § 609(B)(2)(i). Applicant is reminded of

the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action

is set to expire THREE MONTHS from the mailing date of this

action. In the event a first reply is filed within TWO MONTHS of

the mailing date of this final action and the advisory action is

not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will expire

on the date the advisory action is mailed, and any extension fee

pursuant to 37 CFR 1.136(a) will be calculated from the mailing

date of the advisory action. In no event, however, will the

statutory period for reply expire later than SIX MONTHS from the

mailing date of this final action.

Any inquiry concerning this communication or earlier

communications from the examiner should be directed to Yasin M

Barqadle whose telephone number is 703-305-5971. The examiner

can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, Glenn Burgess can be

reached on 703-305-9717. The fax phone numbers for the

organization where this application or proceeding is assigned are

703-746-7239 for regular communications and 703-746-7238 for

After Final communications.

Any inquiry of a general nature or relating to the status of

this application or proceeding should be directed to the

receptionist whose telephone number is 703-304-3900.

Yasin Barqadle

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